

Date: December 16, 2002

To: DTE

From: Dr. Jonathan Raab, Raab Associates, Ltd on Behalf of the Distributed Generation Collaborative

RE: Order 02-38 Interim Report and Request for Extension

Attached please find the Interim Report of the Massachusetts DG Collaborative (hereinafter "the Collaborative".) This Collaborative was initiated at the request of the Commission in DTE Order 02-38-A with facilitation and technical support funding provided by the Massachusetts Technology Collaborative (hereinafter "MTC".)

In preparing this report, over 50 stakeholders have met for six days of meetings over a six-week period (see membership and attendance list in Attachment 2), and have worked diligently to comply with the DTE's directives and within the timeframe specified in the Order. As this Interim Report will attest, the Collaborative has made great strides in developing a workable and fair process for interconnecting distributed generation in Massachusetts. This includes a detailed step-by-step process, timeframes, and costs.

However, at this juncture, though the parties agree that they have accomplished a substantial amount, the process detailed in this Interim Report only applies to interconnection on a radial system. Although this represents the majority of the interconnection activity in Massachusetts to date, the Collaborative has not yet addressed interconnecting to a network system. Network systems pose additional complexities and challenges that the Collaborative members would like time to analyze and attempt to address. Primarily, for this reason, the Collaborative is requesting an extension until the end of February. The additional time would also allow the Stakeholders to further refine and better package its proposals on the radial system, as well as address other issues (see Attachment 1). MTC is prepared to request approval from their board of directors for additional funding, if necessary, to continue this process.

By the end of February, the Stakeholders will file a Report documenting where there is and is not consensus on issues related to the interconnection of all distributed generation on both radial and network systems. Until then, the Collaborative feels that it would be unnecessary and in fact counterproductive to ask for the DTE to ask parties to comment on or hold hearings on its Interim Report.

Please let us know as soon as possible whether the DTE will grant us this extension.

On behalf of the Collaborative members, thank you for your attention to this request.

Interim Report

DISTRIBUTED GENERATION INTERCONNECTION COLLABORATIVE

DISCLAIMER: THIS IS A WORK IN PROGRESS, NOT A FINAL REPORT

SUBMITTED TO:

**MASSACHUSETTS DEPARTMENT OF TELECOMMUNICATIONS AND
ENERGY IN COMPLIANCE WITH DTE ORDER 02-38-A**

DECEMBER 16, 2002

Mediated by Raab Associates, Ltd. with Suzanne Orenstein
Technical Consulting From Navigant Consulting

Table of Contents

POLICY STATEMENT	4
FIGURE 1: SCHEMATIC OF PROPOSED PROCESS FOR DG INTERCONNECTION IN MASSACHUSETTS	5
TABLE 1: TIME FRAMES'	6
TABLE 2: COMMERCIAL TERMS	7
ATTACHMENT 1: OTHER ISSUES	8
ATTACHMENT 2: MEMBERSHIP AND ATTENDANCE LIST.....	12

Policy Statement

The Distributed Generation Collaborative parties, after working in 6 meetings on consensus interconnection standards and procedures, have developed several preliminary understandings documented in this Interim Report. The policy statements below support and are linked to any eventual final recommendations.

The parties agree to work to streamline the process over time, including reducing the review time and cost, and further streamlining the screening process.

?? The Utilities will gather information continuously to enable annual reporting to the DTE of:

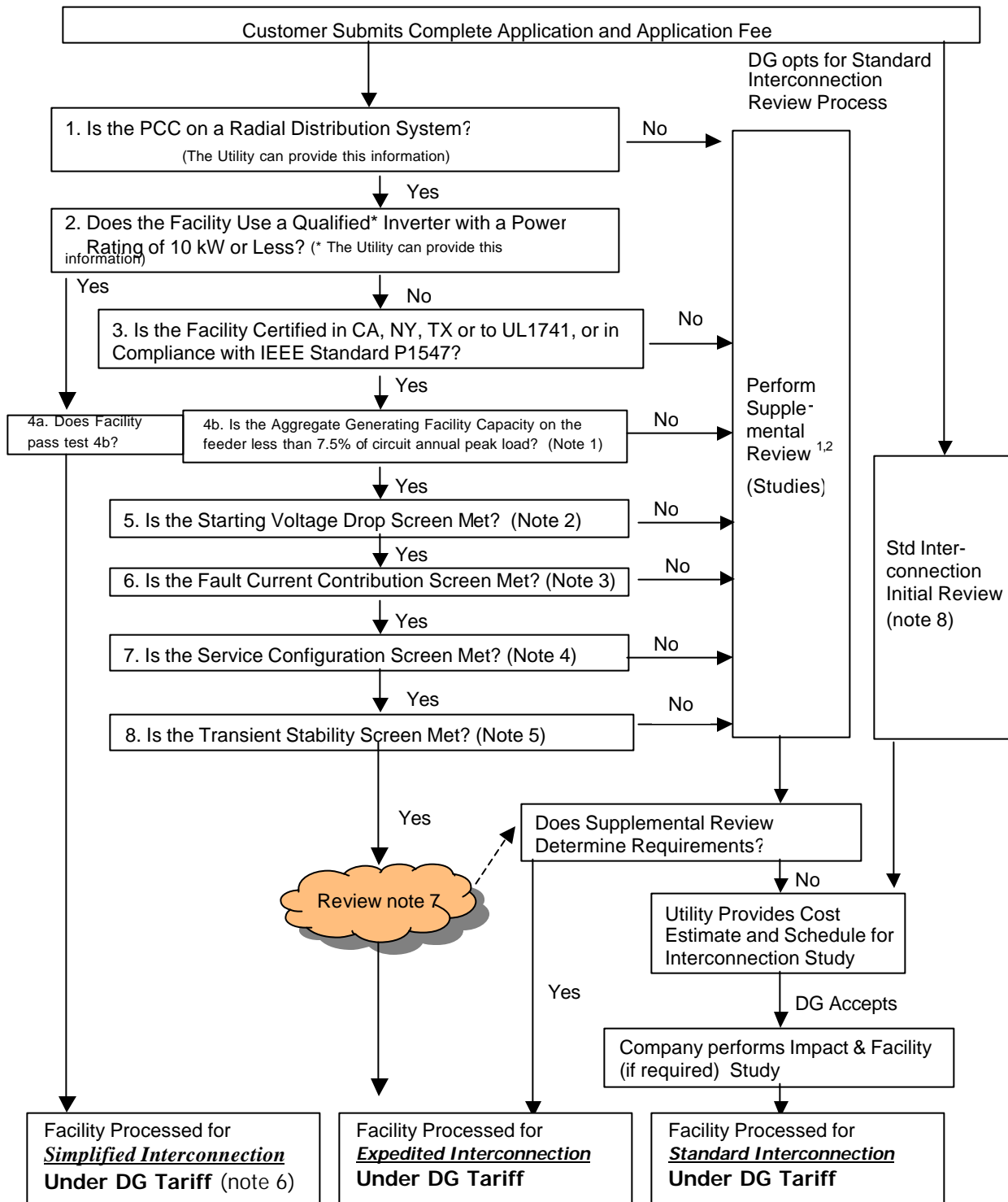
- Number and types of interconnections, including those that would exceed the 7.5% feeder threshold.
- Time to completion of each application.
- Utility person-hours required to complete each project.
- Others, to be determined.

?? The parties will review specified items periodically (e.g. after 20 installations or 30 applications through the Expedited process, or after a specific time period): In conducting its periodic review, the parties will consider the interconnection experiences in other states.

- Timelines
- Costs
- Screen thresholds (e.g. increasing the threshold in Box 4 from 7.5% to a higher percentage, such as 15%)
- Others, to be determined

The Collaborative needs additional time to discuss Information Tracking. In preparation for the Final DG Interconnection filing the DG stakeholders will consider several options for ensuring that appropriate information is accessible for future DTE (and DG Stakeholder) reviews of the interconnection standards.

Figure 1: Schematic of Proposed Process for DG Interconnection in Massachusetts

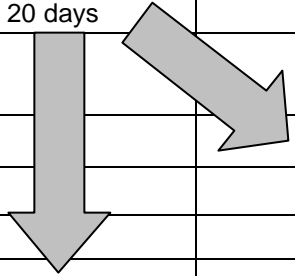


¹ The Notes to accompany the Boxes for this figure are under development and are therefore not included.

² Even if a proposed project initially fails a particular screen in the expedited process, if supplemental review shows that it can return to the expedited process then it will do so.

³ Supplemental review occurs when the DG system fails one or more of the process screens. Supplemental review will determine if the DG system can still be interconnected safely and reliably through the expedited process within the time allotted to perform the supplemental review. If this cannot be done, the Utility will provide a cost estimate and schedule for an Interconnection Study and enters Standard Interconnection Review.

Table 1: Time Frames^{1,2}

Criteria for Process Classification	Based on Evaluation of Technical Screens		Applicant Option
	Simplified	Expedited	
Review Process	Simplified	Expedited	Standard Review
Eligible Facilities	Certified Inverter < 10 kW	Qualified DG	Any DG
Acknowledge receipt of Application	(3 days)	(3 days)	(3 days)
Review Application for completeness	10 days	10 days	10 days
Complete Review of Screens 1-9	10 days	25 days	n/a
Complete Supplemental Review (if needed)	n/a	20 days	n/a
Complete Standard Interconnection Process Initial Review	n/a		20 days
Send Follow-on Studies Cost/Agreement	n/a		5 days
Complete Impact Study (if needed)	n/a		55 days
Complete Facility Study (if needed)	n/a		30 days
Send Executable Agreement ³	Done	10 days	15 days
Total Maximum Days ⁴	15 days	40/60 ^{5,6}	125/150 days ⁷
Notice/ Witness Test	< 1 day with 10 day notice or by mutual agreement	1-2 days with 10 day notice or by mutual agreement	By mutual agreement

¹ All days listed apply to Utility work days under normal work conditions. All numbers in this table assume a reasonable number of applicants under review. Any delays caused by IC Customer will interrupt the applicable clock. Moreover, if an IC Customer fails to act expeditiously to continue the interconnection process or delays the process by failing to provide necessary information within a reasonable time (e.g. fifteen days), then the Utility may terminate the application and the IC Customer must re-apply. However, the utility will be required to retain the work previously performed in order to reduce the initial and supplemental review costs incurred.

² Some members of the DG cluster have not agreed to the timeframes outlined in the schedule.

³ Utilities deliver an executable form. Once an executable agreement is delivered by the utility any further modification and timetable will be established by mutual agreement.

⁴ Actual totals laid out in columns exceed the maximum target.

⁵ Shorter time applies to Expedited w/o supplemental review, longer time applies to Expedited with supplemental review.

⁶ The parties agree that the maximum days are 40/60. The parties will endeavor to establish what a reasonable average number of days is by the final filing if possible. The parties further agree that average days (fewer than maximum days) is a performance metric that will be tracked.

⁷ The parties agree that although the maximum days are 125/150. The parties will endeavor to establish what a reasonable average number of days is by the final filing if possible. The parties further agree that average days (fewer than maximum days) is a performance metric that will be tracked.

Table 2: Commercial Terms ⁸

Criteria for Process Classification	Based on Evaluation of Technical Screens		Applicant Option
Review Process	Simplified	Expedited	Standard Interconnection Process Review
Eligible Facilities	Certified Inverter < 10 kW	Qualified DG	Any DG
Application Fee (covers screens)	0	\$3/kW with minimum fee \$300, maximum fee \$2,500	\$3/kW with minimum fee \$300, maximum fee \$2,500
Supplemental Review (if applicable)	n/a	Up to 10 engineering hours at \$125/hr (\$1,250 max) ⁹	n/a
Standard Interconnection Initial Review	n/a	n/a	Included in application fee (if applicable)
Impact and Facility Study (if required)	n/a	n/a	Actual cost ¹⁰
Facility Upgrades	¹¹ n/a	Actual cost	Actual cost
O and M	n/a	TBD	TBD
Witness test	0	TBD	Actual cost
ADR costs	TBD	TBD	TBD

⁸ Some members of the DG cluster did not agree to the fees in this table.

⁹ For Supplemental Review, applicants will pay actual costs up to \$1,250, which is based on a maximum of 10 engineer hours at an estimated \$125/hour (pending utilities further verification in the next phase). If more study is needed, then the Utility will provide a cost estimate for the impact and/or feasibility studies.

¹⁰ This is the actual cost only attributable to the applicant.

¹¹ Not applicable except in certain rare cases where a system modification would be needed. If so, the modifications are the customer's responsibility.

Attachment 1: Other Issues

Other issues that are under discussion by the Collaborative and that we anticipate addressing in the final report are the following:

- ?? ADR
- ?? Environmental issues
- ?? Network interconnection
- ?? Information policies
- ?? Queuing / prioritization
- ?? Engineering requirements associated with interconnection
- ?? Description of process and additional notes on figures and tables
- ?? Agreement and application forms

For many of these issues, documents that have already been submitted by one or more parties are available on the project website at <http://dg.raabassociates.org>. All of the project documents are listed below by title (and can be accessed by clicking the hyperlink):

Proposals and Working Documents:

Meeting #4 (12/6/2002)

 [Proposals/Issues from CLF, MASSPIRG, UCS, and MECA](#) (Other) (21k)

Meeting #4 (12/6/2002)

 [Proposed Interconnection Agreement - Peter Chamberlain](#) (Other) (28k)

Meeting #4 (12/6/2002)

 [Memo on ADR - Suzanne Orenstein and Roger Freeman](#) (Other) (24k)

Meeting #6 (12/13/2002)

 [Network Problems - Utility Cluster](#) (Other) (14k)

Meeting #6 (12/13/2002)

 [Information Tracking - DOER](#) (Other) (25k)

Background Documents:

Meeting #1 (11/4/2002)

 [California Interconnection Standards](#) (Background Document) (541k)

Meeting #1 (11/4/2002)

 [NARUC Agreement](#) (Background Document) (242k)

Meeting #1 (11/4/2002)

 [Texas Agreement](#) (Background Document) (572k)

Meeting #1 (11/4/2002)

 [New York State Interconnection Requirements](#) (Background Document) (76k)
Meeting #1 (11/4/2002)

 [IEEE P1547 Draft Interconnection Standards](#) (Background Document) (1,437k)
Meeting #1 (11/4/2002)

 [FERC ANOPR Attachment A Working Document \(10-18\)](#) (Background Document) (49k)
Meeting #1 (11/4/2002)

 [FERC ANOPR Attachment B Working Document \(10-30\)](#) (Background Document) (72k)
Meeting #1 (11/4/2002)

 [FERC ANOPR Process comparison of positions \(10-30\)](#) (Background Document) (138k)
Meeting #1 (11/4/2002)

 [Massachusetts Utilities Joint Draft Interconnection Standards](#) (Background Document) (428k)
Meeting #1 (11/4/2002)

 [FERC ANOPR](#) (Background Document) (808k)
Meeting #1 (11/4/2002)

 [DTE Interconnection Collaborative Order \(02-38\)](#) (Background Document) (41k)
Meeting #1 (11/4/2002)

 [MA Joint Utilities Presentation](#) (Background Document) (451k)
Meeting #2 (11/12/2002)

 [DG Cluster Proposal](#) (Background Document) (392k)
Meeting #2 (11/12/2002)

 [DG Cluster Introductory Remarks](#) (Background Document) (94k)
Meeting #2 (11/12/2002)

 [Comparison of other states' standards \(Navigant Consulting\)](#) (Background Document) (77k)
Meeting #2 (11/12/2002)


 [Other interconnection standards power point presentation \(Navigant Consulting\)](#) (Background Document) (379k)
Meeting #2 (11/12/2002)

 [Utilities presentation on positions at ANOPR Proceedings](#) (Background Document) (90k)
Meeting #2 (11/12/2002)

 [Utilities proposal for ADR, Costs, and Timing](#) (Background Document) (68k)
Meeting #3 (11/20/2002)

 [FERC ANOPR Attachments A & B, filed 11.12.02](#) (Background Document) (340k)

Meeting #2 (11/12/2002)

 [Simplified overview of DG interconnection complexity \(Utility cluster\)](#)
(Background Document) (25k)

Meeting #2 (11/12/2002)

 [Utilities' Fig 2 flowchart and DG providers' proposed screens](#) (Background Document) (297k)

Meeting #3 (11/20/2002)

 [DOE Impact Study](#) (Background Document) (2,555k)


Meeting #3 (11/20/2002)

 [New York State Standardized Interconnection Contract](#) (Background Document) (30k)

Meeting #3 (11/20/2002)

 [Utility Cluster Expedited DG Proposal](#) (Background Document) (68k)

Meeting #3 (11/20/2002)

 [DG Cluster Interconnection Proposal \(w/ 11.20 edits\)](#) (Background Document) (81k)

Meeting #3 (11/20/2002)

 [DG Cluster Interconnection Proposal \(Original\)](#) (Background Document) (61k)


Meeting #3 (11/20/2002)

 [DG Cluster Proposed Commercial Parameters Proposal \(original\)](#) (Background Document) (63k)

Meeting #4 (12/6/2002)

 [Induction Generators versus Inverter Generators](#) (Background Document) (65k)

Meeting #5 (12/11/2002)


 [Map of the Mass Tech Collaborative campus, Westborough](#) (Background Document) (36k)

Meeting #6 (12/13/2002)


 [Network Problems - Utility Cluster](#) (Background Document) (14k)

Agendas:


Meeting #2 (11/12/2002)

 [Agenda](#) (Agenda) (22k)

Meeting #3 (11/20/2002)

 [Agenda S3](#) (Agenda) (28k)

Meeting #4 (12/6/2002)

 [Agenda](#) (Agenda) (28k)

Groundrules

Meeting #1 (11/4/2002)

 [Draft Groundrules](#) (Groundrules) (51k)

Meeting Summaries¹²


Meeting #1 (11/4/2002)

 [Meeting Summary](#) (Meeting Summary) (95k)

Meeting #2 (11/12/2002)

 [Meeting Summary for Meeting #2](#) (Meeting Summary) (418k)


Meeting #3 (11/20/2002)

 [Meeting Summary 11.20](#) (Meeting Summary) (173k)

Meeting #3 (11/20/2002)

 [DG Meeting Summary - Roughan Edits](#) (Meeting Summary) (181k)

Meeting #4 (12/6/2002)

 [Meeting Summary](#) (Meeting Summary) (194k)

¹² Summaries from Meetings 5 and 6 will be available by December 20.

Attachment 2: Membership and Attendance List

Organization	Name	11/4	11/15	11/20	12/6	12/11	12/13
DG PROVIDERS							
Aegis Energy Services	Spiro Vardakas	X	X	X	X	X	
SEBANE	Steve Cowell	X	X		X	X	X
SEBANE (alternate)	Ed Kern	X	X	X	X	X	X
E-Cubed	Peter Chamberlain	X	X	X	X	X	X*
E-Cubed (alternate)	Ruben Brown	X	X	X	X	X	
Ingersoll-Rand	Jim Watts	X	X	X	X	X	X
Ingersoll-Rand (alternate)	Jim Avery	X					
NAESCO	Don Gilligan						
Northeast CHP Initiative	Sean Casten	X	X	X	X		
NECA	Larry Plitch	X	X	X			
NECA (alternate)	Tobey Winters	X	X				
Hill & Barlow (for Real Energy et al)	Roger Freeman	X	X	X	X	X	X
UTC	Herb Healy	X		X	X	X	X
UTC (alternate)	Heather Hunt		X				
Keyspan	Pat Crowe	X					
Keyspan	Joe Niemiec		X		X		X
Keyspan	Chuck Berry		X		X	X	X
Keyspan	Rich Johnson			X			
Plug Power	Lisa Potter		X				
Plug Power	Rudy Stegemoeller			X			
Trigen Energy	Dave Doucette		X	X		X	
GOVERNMENT/QUASI GOVERNMENT							
DOER	Dwayne Breger						
DOER (alternate)	Gerry Bingham	X		X	X	X	X
DOER (alternate)	David Rand	X	X	X			
MTC	Sam Nutter	X	X	X	X	X	X
MTC (alternate)	Judy Silvia	X		X		X	
MTC (alternate)	Raphael Herz	X	X	X	X	X	X
Attorney General's office	Joseph Rogers						
Attorney General's office	Judith Laster						
Attorney General's office	Patricia Kelley						
Cape Light Compact	Margaret Downey	X					
Cape Light Compact	Kitt Johnson		X	X			X
DEM							
DTE	Paul Afonso	X					
CONSUMERS							
AIM	Angie O'Connor	X	X	X	X		X
for Solutia and MeadWestVac Co.	Andy Newman	X	X	X			X
for Wyeth	Lisa Barton						

for Wyeth	Susan Richter	X	X	X		X	
UTILITIES							
Unitil/FG&E	John Bonazoli	X	X	X	X	X	X
Unitil/FG&E (alternate)	Justin Eisfeller		X	X	X	X	X
ISO-NE	Henry Yoshimura	X	X	X		X	X
ISO-NE (Alternate)	Carolyn O'Connor	X		X			
ISO-NE (2 nd Alternate)	Eric Krathwohl			X	X		
NSTAR	Larry Gelbien	X	X	X		X	
NSTAR (Alternate)	Dave Dishaw	X	X	X	X	X	X
NSTAR (Alternate)	Dan Butterfield	X	X	X	X	X	X
WMECO/NU	Doug Clarke	X	X	X	X	X	X
WMECO/NU (alternate)	Rich Towsley	X	X			X	
WMECO/NU (alternate)	Leo Rancourt	X	X	X			
NGRID	Tim Roughan	X	X	X	X	X	X
NGRID (alternate)	John Bzura	X	X	X	X	X	X
PUBLIC INTEREST GROUPS							
UCS, MassPIRG, and CLF	Deborah Donovan	X					
UCS, MassPIRG, and CLF	Frank Gorke				X		
UCS, MassPIRG, and CLF	Seth Kaplan		X		X	X	
Mass Energy Consumers Alliance	Larry Chretien		X		X		X
Mass Energy Consumers Alliance	Leslie Grossman	X		X	X	X	
COLLABORATIVE TEAM							
Raab Associates	Jonathan Raab	X	X	X	X	X	X
Raab Associates	Joel Fetter	X	X	X	X	X	X
Raab Associates	Colin Rule	X	X	X	X	X	X
Facilitation Consultant	Suzanne Orenstien	X	X	X	X	X	X
Navigant Consulting	Stan Blazewicz	X		X	X	X	X
Navigant Consulting	Eugene Shlatz	X	X	X	X		